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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,139	03/06/2002	William D. Tandy	4333.1US (99-0257.1)	9714
24247	7550	08/21/2007	EXAMINER	
TRASK BRITT			CHANG, VICTOR S	
P.O. BOX 2550			ART UNIT	
SALT LAKE CITY, UT 84110			PAPER NUMBER	
			1771	
			MAIL DATE	
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			08/21/2007	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/092,139

Applicant(s)

TANDY ET AL.

Examiner

Victor S. Chang

Art Unit

1771

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 4, 6, 8, 9, 11, 12, 14, 16, 17, 19, 20, 22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6, 8, 9, 11, 12, 14, 16, 17, 19, 20, 22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Introduction

1. Applicants' amendments and remarks filed on 7/11/2007 have been entered. Claims 1, 9 and 17 have been amended. Claims 1, 3, 4, 6, 8, 9, 11, 12, 14, 16, 17, 19, 20, 22 and 24 are active.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In response to the amendments, the new matter issue in prior Office actions is withdrawn. In view of the amendments, the Office action has been rewritten as set forth below.

Claim Rejections - 35 USC § 112

4. Claims 1, 3, 4, 6, 8, 9, 11, 12, 14, 16, 17, 19, 20, 22 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More particularly, in independent claims 1, 9 and 17, the term "flexible film" lacks antecedent basis. For the present Office action, it is presumed that the term "flexible film" has been deleted as set forth in the beginning of each independent claim. Clarification is required in the next reply.

Rejections Based on Prior Art

5. Claims 1, 3, 4, 6, 8, 9, 11, 12, 14, 16, 17, 19, 20, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weng et al. [US 5972234] in view of Ishiwata et al. [US 5300172].

Weng's invention relates to a tape for marking a wafer (semiconductor device). A high-intensity energy beam is used to create a cavity or a mark through the tape. The tape is laminated to a top surface of the semiconductor substrate and exposed to an etchant to form a mark in the substrate [abstract]. Weng teaches that any suitable tape of polymeric based material, which can be easily patterned by high-intensity energy beams such as ultraviolet light or laser, can be used [col. 4, lines 27-33]. The marking tape adheres to a substrate to be marked [col. 2, line 64]. A release layer (flexible film) may be provided to cover the adhesive layer for protection during the laser marking process [col. 4, line 64 through col. 5, line 2]. The release layer may be formed of any suitable material such as polypropylene or PET [col. 5, lines 1-2].

For claim 1, Weng lacks teachings that the marking tape comprises 1) a material having a thermal expansion coefficient substantially similar to the semiconductor device; 2) two different adhesive layers, 3) the first outermost adhesive layer is radiation curable and bonded to at least a portion of a semiconductor device; 4) the second adhesive layer is radiation curable and facilitates peeling upon laser marking a semiconductor device. However, regarding 1), since Weng teaches a marking tape having substantially the same structure and composition as the instant invention and for the same use, selecting a workable material having a similar thermal expansion coefficient substantially similar to the semiconductor device is deemed to be an obvious routine optimization, dictated by the same end usability, such as by the desire to obtain

full protection layer without separation at interface during the semiconductor marking process steps. Regarding 2), applicants are reminded that the latest amended Fig. 5 [see amendment filed 12/20/2004] shows that both layers are identified as 1B, therefore they are interpreted as the same as one single layer. Further, since the recitation lacks any patentably distinct composition features in these two “different” adhesive layers, the term “different” appears to be merely associated with structural relationship difference at the outer surfaces, as being in contact with different superstrate or substrate, which are inherent the same for the outer surfaces of a single layered adhesive as well. In other words, since Weng’s single-layer adhesive provides these same structural features at its outer surfaces and there is no composition difference in claimed layers, Weng’s single layered adhesive reads on the two different adhesive layers as claimed. Regarding 3), Ishiwata’s invention relates to a surface-protection method during etching. Through the use of a radiation-curable adhesive tape at the time of etching, a tape is stuck (bonded) onto an adherend wafer (semiconductor device), then the radiation-curable adhesive layer is irradiation cured before the etching treatment, the cured adhesive has much enhanced etching resistance by improving acid resistance to the etching liquid, and by lowering the water absorption [col. 2, lines 49-57]. It would have been obvious to one of ordinary skill in the art to modify Weng’s adhesive layer with Ishiwata’s radiation-curable adhesive layer, motivated by the desire to obtain an enhanced etching resistance. Regarding 4), since Weng discloses a release layer (flexible film) may be provided to cover the adhesive layer for protection during the laser marking process, and the combined teachings of prior art render the structure and composition of claimed invention obvious, a workable releasing property between the adhesive layer to the

release layer is deemed to be an obvious routine optimization, motivated by the desire to facilitate the removal of the release layer.

For claim 3, since the surface of the semiconductor is not a structural element of instantly claimed laser-markable tape of claim 1, whether the surface of the semiconductor bears grinding marks or not bears no weight to the patentability. Further, even if it is considered, since Weng expressly teaches that the substrates includes a silicon wafer and any suitable electronic substrate materials that is utilized in the fabrication of electronic devices [col. 4, lines 18-20], Weng's teachings encompass the claimed limitation as well.

For claim 4, since Ishiwata's radiation-cured adhesive layer provides an enhanced etching resistance, it is interpreted as providing a permanent adhesion in the marking process of the semiconductor device.

For claim 6, since the prior art teaches the same use (marking a wafer or semiconductor device), the "homogeneous surface" of the adhesive layer outer surface is deemed to be obviously provided by practicing the same invention of the prior art.

For claim 8, Weng's polypropylene release layer is inherently translucent.

For claims 9, 11, 12, 14, 16, 17, 19, 20, 22 and 24, since they have same scope of claimed limitations as claims 1, 3, 4, 6 and 8, they are also rejected for the same reasons.

Response to Argument

6. Applicants argue [Remarks page 10] that the combined teachings of prior art does not teach or suggest a tape which has a portion thereof left on a semiconductor device for a mark.

However, such a limitation is absent from the independent claims 1, 9 and 17, and their dependent claims.

Applicants argue [page 10] that since Weng et al. does not teach or suggest using a tape that has laser markable surface and since Ishwata et al. teach or suggest the use of a radiation cured adhesive used to form a three dimensional network, any rejection based upon the Weng et al. reference and the Ishawta et al. reference is a hindsight reconstruction of the Applicants inventions. However, since Weng teaches a making tape for semiconductor which can be easily patterned by high-intensity energy beams such as ultraviolet light or laser, and Ishiwata discloses a radiation curable adhesive having an improved etching resistance for the same use of marking a wafer, the referenes are combinable, and the combined teachings read on the claimed invention. Since the combination takes into account only knowledge which was within the level of ordinary skill at the time the invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

Applicants argue [pages 10-11] that neither the Weng et al. reference nor the Ishiwata et al. reference nor any combination thereof teaches or suggests the use of a second adhesive layer different than the first outermost adhesive layer. However, applicants are reminded that the latest amended Fig. 5 [see amendment filed 12/20/2004] shows that both layers are identified as 1B, therefore they are interpreted as the same as one single layer. Further, since the recitation lacks any patentably distinct composition features in these two "different" adhesive layers, the term "different" appears to be merely associated with structural relationship difference at the outer surfaces, as being in contact with different superstrate or substrate, which are inherent the same for the outer surfaces of a single layered adhesive as well. In other words, since Weng's

single-layer adhesive provides these same structural features at its outer surfaces and there is no composition difference in claimed layers, Weng's single layered adhesive reads on the two different adhesive layers as claimed.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S. Chang whose telephone number is 571-272-1474. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/
Primary Examiner, Art Unit 1771

8/18/07

